ABM PUBLIC SCHOOL, RIWAZPUR

HOLIDAYS HOMEWORK(2023-24)

CLASS -X

HOPE YOUR SUMMER IS FILLED WITH READING, WRITING, AND MOST OF ALL...FUN!

SCIENCE

1.What does an electric circuit mean?

2. Define the unit of current?
3. What is meant by saying that the potential difference between two points is 1 V?
4. On what factors does the resistance of a conductor depend?
5. Will the current flow more easily through a thick wire or a thin wire of the same material, when connected to the same source? Why?
6. Why are coils of electric toasters and electric irons made of an alloy rather than a pure material?
7. Why are coils of electric toasters and electric irons made of an alloy rather than a pure metal?
8. What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series?
9. What is an electric current? Distinguish between an open and a closed circuit.
10. What do you mean by resistance of a conductor? Define its units.

11. Mention the condition under which charges can move in a conductor. Name the device which is used to maintain this condition in an electric circuit.

12. Briefly describe the working of an electric bulb. Explain the choice of the filament. Why is an inactive gas filled in the bulb?

Numerical

1. Question 4. what is the value of charge on a body which carries 50 excess electrons?
2. How much work is done in moving a charge of 2 coulombs from at 118 volts to a point 128 volts?
3. How much energy is given to each coulomb of charge passing through a 6 v battery?
4. The filament of an electric lamp draws a current of 0.4 A which lights for 3 hours. Calculate the amount of charge that flows through the circuit?
5. A current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes. Find the amount of electric charge that flows through the circuit?
6. If 1.6×10^{-19} C charge flows through a conductor in 10^{-10} . find the current flowing through the conductor. 1.6×10^{-9} A
7. What are the two properties of carbon which lead to the huge no. Of carbon compounds we see around us?
8. While cooking, if the bottom of vessel is getting blackened on the outside, it means that
   a) The food is not cooked completely.
   b) The food is not burning completely.
   c) The fuel is wet.
   d) The fuel is burning completely.
9. What is hydrogenation? What it is industrial application?
10. Give one example of an exothermic reaction and one of an endothermic reaction?

Project:

Make a PowerPoint presentation of one of the following topics:

1. **Different types of chemical reaction and their importance in our daily life**
2. **Use of electricity io our daily life and combination of resistance in our homes.**

SOCIAL STUDIES

Revise all the chapters for PT 2

- The Rise of Nationalism in Europe.
- Resources & development
- Federalism
- Forest & wildlife Resources.

2. Learn & write extra questions of these chapters.
3. Make Models of weapons using in the past wars.
4. Make a poster of The Dream of Worldwide Democratic and Social Republics by Frederic Sorrieu 1848.
5. Collect more information on the wildlife Sanctuaries and national parks of India and cite their locations on the map of India.

ENGLISH

Revise all the chapters for PT 2

- The Rise of Nationalism in Europe.
- Resources & development
- Federalism
- Forest & wildlife Resources.

2. Learn & write extra questions of these chapters.
3. Make Models of weapons using in the past wars.
4. Make a poster of The Dream of Worldwide Democratic and Social Republics by Frederic Sorrieu 1848.
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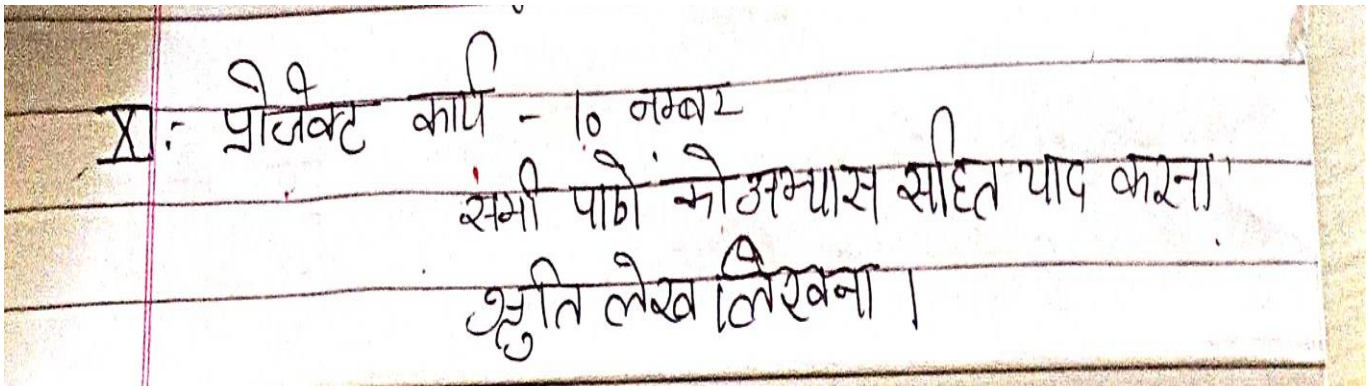
HINDI



COMPUTER

1. Prepare a web page showing all the tags of html
2. Prepare ppt's on "digital India"
3. Prepare school time table using HTML

A B M PUBLIC SCHOOL
SUBJECT –MATHEMATICS
HOLIDAY HOMEWORK 2023-24

Class :- X

Summer Vacation, 2023-24

SUBJECT :	**MATHEMATICS**
  	

Work Specification :	**[Part A]**Make an animated power point presentation on the topic (1) Polynomials or (2) probability or (3) A.P **[Part B]** Solve the given worksheet in your HW notebook and practical file experiment .

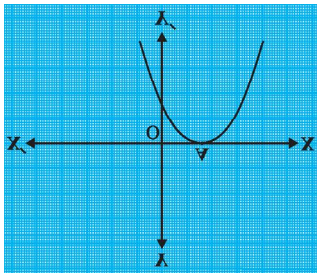
Materials Required :	Computer (MS-office), HW notebook.

Instructions / Guidelines :	**General Guidelines for Students:** **[part A]** **(i)** The power point presentation should between 15 to 20 slides. **(ii)** In each slide there should be animations. **[Part B]** **(i)** Solve all the questions in your HW notebook.

MCQ WORKSHEET-I
CLASS X : CHAPTER - 2
POLYNOMIALS

1. The value of k for which (–4) is a zero of the polynomial $x^2 – x – (2k + 2)$ is
   (a) 3 (b) 9 (c) 6 (d) –1

2. If the zeroes of the quadratic polynomial ax2 + bx + c, $c \neq 0$ are equal, then
   (a) c and a have opposite sign (b) c and b have opposite sign
   (c) c and a have the same sign (d) c and b have the same sign



3. The number of zeroes of the polynomial from the graph is
   (a) 0 (b) 1 (c) 2 (d) 3

4. If one of the zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is
   (a) 10 (b) –10 (c) 5 (d) –5

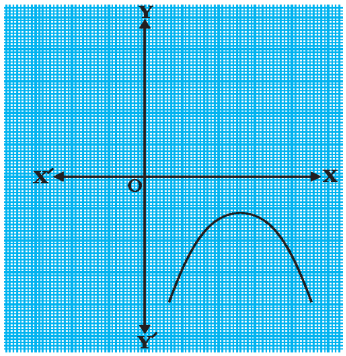
5. A quadratic polynomial whose zeroes are –3 and 4 is
   (a) $x^2 – x + 12$ (b) $x^2 + x + 12$ (c) $2x^2 + 2x – 24$. (d) none of the above.

6. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is (a) $\alpha + \beta = \frac{c}{a}$ (b) $\alpha + \beta = \frac{-b}{a}$ (c) $\alpha + \beta = \frac{-c}{a}$ (d) $\alpha + \beta = \frac{b}{a}$

7. The zeroes of the polynomial $x^2 + 7x + 10$ are
   (a) 2 and 5 (b) –2 and 5 (c) –2 and –5 (d) 2 and –5

8. The relationship between the zeroes and coefficients of the quadratic polynomial $ax^2 + bx + c$ is (a) $\alpha.\beta = \frac{c}{a}$ (b) $\alpha.\beta = \frac{-b}{a}$ (c) $\alpha.\beta = \frac{-c}{a}$ (d) $\alpha.\beta = \frac{b}{a}$

9. The zeroes of the polynomial $x^2 – 3$ are
   (a) 2 and 5 (b) –2 and 5 (c) –2 and –5 (d) none of the above



10. The number of zeroes of the polynomial from the graph is
    (a) 0 (b) 1 (c) 2 (d) 3

11. A quadratic polynomial whose sum and product of zeroes are –3 and 2 is
    (a) $x^2 – 3x + 2$ (b) $x^2 + 3x + 2$ (c) $x^2 + 2x – 3$. (d) $x^2 + 2x + 3$.

12. The zeroes of the quadratic polynomial $x^2 + kx + k$, $k \neq 0$,
    (a) cannot both be positive (b) cannot both be negative
    (c) are always unequal (d) are always equal

MCQ WORKSHEET-II
CLASS X : CHAPTER - 2
POLYNOMIALS

1. If α, β are the zeroes of the polynomials f(x) = x^2 + x + 1, then $\frac{1}{\alpha}+\frac{1}{\beta}$

   (a) 0 (b) 1 (c) –1 (d) none of these

2. If one of the zero of the polynomial f(x) = $(k^2 + 4)x^2$ + 13x + 4k is reciprocal of the other then k =

   (a) 2 (b) 1 (c) –1 (d) – 2

3. If α, β are the zeroes of the polynomials f(x) = $4x^2$ + 3x + 7, then $\frac{1}{\alpha}+\frac{1}{\beta}$

   (a) $\frac{7}{3}$ (b) $\frac{-7}{3}$ (c) $\frac{3}{7}$ (d) $\frac{-3}{7}$

4. If the sum of the zeroes of the polynomial f(x) = $2x^3 – 3kx^2$ + 4x – 5 is 6, then value of k is

   (a) 2 (b) 4 (c) –2 (d) – 4

5. The zeroes of a polynomial $p(x)$ are precisely the x-coordinates of the points, where the graph of $y = p(x)$ intersects the

   (a) x – axis (b) y – axis (c) origin (d) none of the above

6. If α, β are the zeroes of the polynomials f(x) = x^2 – p(x + 1) – c, then $(\alpha+1)(\beta+1)$ =

   (a) c – 1 (b) 1 – c (c) c (d) 1 + c

7. A quadratic polynomial can have at most …….. zeroes

   (a) 0 (b) 1 (c) 2 (d) 3

8. A cubic polynomial can have at most …….. zeroes.

   (a) 0 (b) 1 (c) 2 (d) 3

9. Which are the zeroes of p(x) = x^2 – 1:

   (a) 1, –1 (b) – 1, 2 (c) –2, 2 (d) –3, 3

10. Which are the zeroes of p(x) = (x – 1)(x – 2):

    (a) 1, –2 (b) – 1, 2 (c) 1, 2 (d) –1, –2

11. Which of the following is a polynomial?

    $(a) x^2 - 5x + 3$

    $(b) \sqrt{x} + \frac{1}{\sqrt{x}}$

    $(c) x^{3/2} - x + x^{1/2}$

    $(d) x^{1/2} + x + 10$

12. Which of the following is not a polynomial?

    $(a) \sqrt{3}x^2 - 2\sqrt{3}x + 3$

    $(b) \frac{3}{2}x^3 - 5x^2 - \frac{1}{\sqrt{2}}x - 1$

    $(c) x + \frac{1}{x}$

    $(d) 5x^2 - 3x + \sqrt{2}$

MCQ WORKSHEET-I
CLASS X : CHAPTER - 3
PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

1. The pair of equations y = 0 and y = –7 has
(a) one solution (b) two solution (c) infinitely many solutions (d) no solution

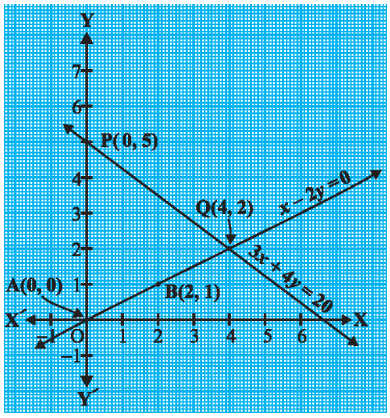
2. The pair of equations x = a and y = b graphically represents the lines which are
(a) parallel (b) intersecting at (a, b)
(c) coincident (d) intersecting at (b, a)

3. The value of c for which the pair of equations cx – y = 2 and 6x – 2y = 3 will have infinitely many solutions is
(a) 3 (b) – 3 (c) – 12 (d) no value

4. When lines l_1 and l_2 are coincident, then the graphical solution system of linear equation have
(a) infinite number of solutions (b) unique solution
(c) no solution (d) one solution

5. When lines l_1 and l_2 are parallel, then the graphical solution system of linear equation have
(a) infinite number of solutions (b) unique solution
(c) no solution (d) one solution

6. The coordinates of the vertices of triangle formed between the lines and y-axis from the graph is
(a) (0, 5), (0, 0) and (6.5,0) (b) (4,2), (0, 0) and (6.5,0)
(c) (4,2), (0, 0) and (0,5) (d) none of these



7. Five years ago Nuri was thrice old as Sonu. Ten years later, Nuri will be twice as old as Sonu. The present age, in years, of Nuri and Sonu are respectively
(a) 50 and 20 (b) 60 and 30 (c) 70 and 40 (d) 40 and 10

8. The pair of equations 5x – 15y = 8 and 3x – 9y = 24/5 has
(a) infinite number of solutions (b) unique solution
(c) no solution (d) one solution

9. The pair of equations x + 2y + 5 = 0 and –3x – 6y + 1 = 0 have
(a) infinite number of solutions (b) unique solution
(c) no solution (d) one solution

10. The sum of the digits of a two digit number is 9. If 27 is added to it, the digits of the numbers get reversed. The number is
(a) 36 (b) 72 (c) 63 (d) 25

MCQ WORKSHEET-II

CLASS X : CHAPTER - 3

PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

1. If a pair of equation is consistent, then the lines will be
   (a) parallel (b) always coincident
   (c) always intersecting (d) intersecting or coincident

2. The solution of the equations $x + y = 14$ and $x – y = 4$ is
   (a) $x = 9$ and $y = 5$ (b) $x = 5$ and $y = 9$ (c) $x = 7$ and $y = 7$ (d) $x = 10$ and $y = 4$

3. The sum of the numerator and denominator of a fraction is 12. If the denominator is increased by b3, the fraction becomes ½ , then the fraction
   (a) $\frac{4}{7}$ (b) $\frac{5}{7}$ (c) $\frac{6}{7}$ (d) $\frac{3}{7}$

4. The value of k for which the system of equations $x – 2y = 3$ and $3x + ky = 1$ has a unique solution is
   (a) $k = – 6$ (b) $k \neq – 6$ (c) $k = 0$ (d) no value

5. If a pair of equation is inconsistent, then the lines will be
   (a) parallel (b) always coincident
   (c) always intersecting (d) intersecting or coincident

6. The value of k for which the system of equations $2x + 3y = 5$ and $4x + ky = 10$ has infinite many solution is
   (a) $k = – 3$ (b) $k \neq – 3$ (c) $k = 0$ (d) none of these

7. The value of k for which the system of equations $kx – y = 2$ and $6x – 2y = 3$ has a unique solution is
   (a) $k = – 3$ (b) $k \neq – 3$ (c) $k = 0$ (d) $k \neq 0$

8. Sum of two numbers is 35 and their difference is 13, then the numbers are
   (a) 24 and 12 (b) 24 and 11 (c) 12 and 11 (d) none of these

9. The solution of the equations $0.4x + 0.3y = 1.7$ and $0.7x – 0.2y = 0.8$ is
   (a) $x = 1$ and $y = 2$ (b) $x = 2$ and $y = 3$ (c) $x = 3$ and $y = 4$ (d) $x = 5$ and $y = 4$

10. The solution of the equations $x + 2y = 1.5$ and $2x + y = 1.5$ is
    (a) $x = 1$ and $y = 1$ (b) $x = 1.5$ and $y = 1.5$(c) $x = 0.5$ and $y = 0.5$(d) none of these

11. The value of k for which the system of equations $x + 2y = 3$ and $5x + ky + 7 = 0$ has no solution is
    (a) 10 (b) 6 (c) 3 (d) 1

12. The value of k for which the system of equations $3x + 5y = 0$ and $kx + 10y = 0$ has a non-zero solution is
    (a) 0 (b) 2 (c) 6 (d) 8

MCQ WORKSHEET-I
CLASS X: CHAPTER - 15
PROBABILITY

1. There are 6 marbles in a box with number 1 to6 marked on each of them . What is the probability of drawing a marble with number 2 ?

(a) $\frac{1}{6}$ (b) $\frac{1}{5}$ (c) $\frac{1}{3}$ (d) 1

2. A coin is flipped to decide which team starts the game . What is the probability of your team will start ?

(a) $\frac{1}{4}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

3. A die is thrown once . What will be the probability of getting a prime number ?

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

Cards are marked with numbers 1 to 25 are placed in the box and mixed thoroughly. One card is drawn at random from the box. Answer the following questions (Q4-Q13)

4. What is the probability of getting a number 5?

(a) 1 (b) 0 (c) $\frac{1}{25}$ (d) $\frac{1}{5}$

5. What is the probability of getting a number less than 11?

(a) 1 (b) 0 (c) $\frac{1}{5}$ (d) $\frac{2}{5}$

6. What is the probability of getting a number greater than 25?

(a) 1 (b) 0 (c) $\frac{1}{5}$ (d) $\frac{2}{5}$

7. What is the probability of getting a multiple of 5?

(a) 1 (b) 0 (c) $\frac{1}{25}$ (d) $\frac{1}{5}$

8. What is the probability of getting an even number?

(a) 1 (b) 0 (c) $\frac{12}{25}$ (d) $\frac{13}{25}$

9. What is the probability of getting an odd number?

(a) 1 (b) 0 (c) $\frac{12}{25}$ (d) $\frac{13}{25}$

10. What is the probability of getting a prime number?

(a) $\frac{8}{25}$ (b) $\frac{9}{25}$ (c) $\frac{12}{25}$ (d) $\frac{13}{25}$

11. What is the probability of getting a number divisible by 3?

(a) $\frac{8}{25}$ (b) $\frac{9}{25}$ (c) $\frac{12}{25}$ (d) $\frac{13}{25}$

12. What is the probability of getting a number divisible by 4?

(a) $\frac{8}{25}$ (b) $\frac{9}{25}$ (c) $\frac{6}{25}$ (d) $\frac{3}{25}$

13. What is the probability of getting a number divisible by 7?

(a) $\frac{8}{25}$ (b) $\frac{9}{25}$ (c) $\frac{6}{25}$ (d) $\frac{3}{25}$

14. A bag has 4 red balls and 2 yellow balls. A ball is drawn from the bag without looking into the bag. What is probability of getting a red ball?

(a) $\frac{1}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{3}$ (d) 1

15. A bag has 4 red balls and 2 yellow balls. A ball is drawn from the bag without looking into the bag. What is probability of getting a yellow ball?

(a) $\frac{1}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{3}$ (d) 1

MCQ WORKSHEET-II
CLASS X: CHAPTER - 15
PROBABILITY

A box contains 3 blue, 2 white, and 5 red marbles. If a marble is drawn at *random* from the box, then answer the questions from 1 to 5.

1. What is the probability that the marble will be white?

(a) $\frac{1}{6}$ (b) $\frac{1}{5}$ (c) $\frac{1}{3}$ (d) 1

2. What is the probability that the marble will be red?

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

3. What is the probability that the marble will be blue?

(a) $\frac{3}{10}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

4. What is the probability that the marble will be any one colour?

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

5. What is the probability that the marble will be red or blue?

(a) 1 (b) $\frac{4}{5}$ (c) $\frac{1}{5}$ (d) $\frac{2}{5}$

A die is thrown once, then answer the questions from 6 to 10.

6. Find the probability of getting a prime number

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

7. Find the probability of getting a number lying between 2 and 6

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

8. Find the probability of getting an odd number.

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

9. Find the probability of getting an even number.

(a) $\frac{1}{6}$ (b) $\frac{1}{2}$ (c) 1 (d) 0

10. Find the probability of getting a number greater than 4.

(a) $\frac{1}{6}$ (b) $\frac{2}{3}$ (c) $\frac{1}{3}$ (d) 1